

ABSTRACT**PROCESS FOR LASER WELDING WITH PRE- AND/OR POST-HEATING
IN THE AREA OF THE WELDING BEAD**

[00036] During welding of higher stiffness steels there is significant tendency towards hardening in the area of the weld seam, which introduces a loss in ductility and thus strongly reduces the durability and quality of the construction components.

[00037] For improving the seam quality an inductive pre or post warming of the weld seam has already been proposed. This requires a complex elaborate additional construction and provides a low flexibility with respect to the seam geometry. Beyond this the clamping of the construction component and changed requirements must be adapted to

[00038] The task of the present invention is comprised thus therein, to reduce the loss in ductility of the weld seam and thereby to reduce the necessary apparatus complexity and the processing time to at least maintain, preferably to reduce.

[00039] The task is solved by a process in which the welding and warming are carried out by a single laser beam with a substantial even output and focusing however with varying rates of advance.